REMARKS

We amended claim 3 to correct an error in the wording. Claims 1-17 are pending in this application.

The Examiner rejected claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Smith, Jr. (Smith) and argues that Smith discloses in Figures 1, 2 and 2A all of the elements of claims 1-3.

Contrary to what the Examiner appears to believe, Smith does not, in fact, disclose *all* the components of the claimed invention. Specifically, Smith does not teach or disclose "a multiple beam generator for use in a scanning system," or "a diffractive element which generates an array of input beams from the deflected beam," both of which are recited in claim 1. Indeed, Smith does not disclose any element that generates an array of input beams from a beam that is deflected by an acousto-optical deflector.

The Examiner argues that Smith discloses a diffractive element that generates an array of input beams from the deflected beam and points to column 4, lines 11-13 and lines 17-21 for support. The cited passage describes a rotating mirror 3 element comprising facets of mirrors. However, the rotating mirror 3 element disclosed by Smith is not a *diffracting* element, nor does it generate an *array* of beams. Instead, the rotating facets of mirrors work to "direct the beam spot 1b in linear paths on repeated scans transversely across two identical photocell assemblies" (col. 4, lines 22-24). The spot cross section beam 1b is the redirected collimated monochromatic beam that is provided by the AOD (col.3, lines 56-60). In other words, the rotating mirror 3 element does not diffract but rather reflects beam 1a so that the redirected beam 1b repeatedly scans transversely across the photocell assembly.

The only place that Smith discloses an array of beams is at the output of the AOD. But Smith's system includes an optical stop that "is used to block the zero order as well as the second and higher order diffracted beams, after which the first order beam is directed upon the rotating facets of mirror 3" (col. 4, lines 9-12). Thus only a single beam reaches the rotating mirrors – namely the first order beam. The diffracted zero and higher-order beams are blocked

out. The rotating mirror element then redirects the single order beam 1b to repeatedly scan the photocell assembly.

The Examiner rejected claims 12-17 under 35 U.S.C. 103(a) as unpatentable over Smith in view of Fan et al. ("Fan"). The Examiner noted that Smith "does not specifically disclose a deflection measurement circuit including a chevron pattern detector" and argues that Fan supplies that which is missing from Smith. However, applicants find that Fan only teaches a chevron *pattern* and makes no mention of "a chevron pattern detector across which one of the beams of the scanned array of beams scans during operation...said chevron pattern detector including an angled slit across which said one of the beams passes," as claim 12 recites.

The only mention of chevrons by Fan is in connection with a method of converting solid amorphous material to a more crystalline state when exposed to an energy beam (col. 2, lines 66-68). Fan discloses a method by which the scanning rate of the energy beam is used to control the crystallization front in the material. Under certain conditions, the crystallization front forms a roughly chevron-like pattern (col. 3, lines 2-6; col. 6, line 42). Fan explains: "In the films examined in detail, it was noted that the crystallites within each periodic feature formed a roughly chevron-like pattern, with the two halves of the pattern symmetrical about an axis parallel to the scan direction and located near the center of the laser slit image...In the micrograph of Fig. 2, the symmetry axis lies close to or just below the bottom of the micrograph, so that only half of the chevron pattern can be seen" (col 6 lines 40-51). In other words, the chevron pattern is a feature of a crystalline material that has been exposed to a particular scanning laser or energy beam. Fan does not teach or suggest a chevron pattern *detector* in any way using a chevron pattern to determine the "location of the scanned array of beams in a direction transverse to the scan direction," as recited in claim 12.

For the reasons articulated above, applicants believe that the claims are in condition for allowance and ask the Examiner to allow the application to issue.

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Respectfully submitted,

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Eric L. Prahl
Registration No.: 32,590
Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
(617) 526-6000 (telephone)
(617) 526-5000 (facsimile)